HEALTHY COMMUNITIES DATA AND INDICATORS PROJECT

Short Title: Licensed daycare center slots
Full title: Number of licensed daycare center slots per 1,000 children aged 0-5 years

1. **Healthy Community Framework:** Adequate levels of economic, social development

2. **What is our aspirational goal:** Support for healthy development of children and adolescents

3. **Why is this important to health?**

Description of significance and health connection

Early childhood is a critical period in children's learning and development, and experiences in their early years will have a significant impact on their health and economic success.[1,2] As more women enter and stay in the work force after having a child, access to child care has become a critical support for working families. Unfortunately, many working parents find high-quality child care unaffordable, and the increasing cost of child care can be particularly crippling for low-income families and single parents. In California, two-parent families spend more than 14% of their household income on infant child care and 44% for single mothers. Families living at the Federal Poverty Level (100% FPL) paid nearly 60% of their income on infant care compared to 40% and 30% paid by families at 150% FPL and 200% FPL, respectively.[4] These barriers can impact parental choices of child care; for instance, parents may choose child care facilities that are cheaper, lower-quality, and even unlicensed. Children's development is found to be less advanced when the care provided is of low quality.[3] Increased availability of child care facilities can positively impact families by providing more choices of child care in terms of price and quality.[5,6]

While parental care remains important to children's well-being and development, non-parental care, especially care of high quality, can have its potential benefits. Children who experienced higher quality child care – care that met accreditation standards and provided safe, clean and cognitively stimulating environments, well-qualified and well-trained staff, high adult-child ratios, and small group size – exhibited more advanced cognitive, language and pre-academic outcomes, positive peer interactions, more cooperative and compliant interactions with adults, fewer behavior problems, and positive mother-child interaction. High quality care had even greater and more positive impact on children whose development was slow.[3] Access to high-quality affordable child care can increase family resources, thus reducing financial hardship and parental stress, and in turn, improves children's outcomes.[1]

Summary of evidence

Since the early 1990s, large-scale longitudinal studies and meta-analyses have consistently found short- and long-term positive effects of child care quality on children's cognitive, biological and social development. National data estimated that less than 10% of child care settings provided children with high quality care and over 80% with "fair" quality.[3] Researchers reported that children who experienced higher quality child care tended to have better cognitive function and language development and were less aggressive and disobedient during the first 3 years of life, and greater school readiness by four and a half years of age was demonstrated.[3] These children also displayed better vocabulary scores in fifth grade than did children who experienced poorer quality care.[7] Other studies suggested that higher quality care is a predictor of higher cognitive-academic achievement and less externalizing behavior at age 15.[8,9] A recent randomized controlled study showed that children exposed to early care and education have significantly lower prevalence of risk factors (i.e. hypertension, obesity) for cardiovascular and metabolic diseases in their mid-30s.[10] Economists estimated that these early interventions yields a return of $8.60 for every $1 spent, about half of which comes from increased earnings for children when they grow up.[1]

Key References

1. The economics of early childhood investments. The White House Web site. https://www.whitehouse.gov/sites/default/files/docs/early_childhood_report1.pdf. Published December 2014.
2. Barnett WS, Ackerman DJ. Costs, benefits, and long-term effects of early care and education programs: recommendations and cautions for community developers. *Community Dev*. 2006, 37(*2*):86-100.

3. The NICHD Study of Early Child Care and Youth Development: findings for children up to age 4½ years. Washington, DC: Eunice Kennedy Shriver National Institute of Child Health and Human Development, National Institutes of Health, U.S. Department of Health and Human Services; 2006.
4. Parents and the high cost of child care. Arlington, VA: ChildCare Aware of America; 2014.
5. Breunig R, Gong X, Yamauchi C. Child care availability, quality and affordability: are local problems related to labour supply? *Economic Record*. 2011; 87(*276*):109-124.
6. Gordon RA, Chase-Lansdale. Availability of child care in the United States: a description and analysis of data sources. *Demography*. 2001;38(*2*):299-316.
7. Belskey J, Burchinal M, McCartney K, Vandell DL, Clarke-Stewart KA, Owen MT. Are there long-term effects of early child care? *Child Dev*. 2007;78(*2*):681-701.
8. Vandell DL, Belsky J, Burchinal M, Vandergrift N, Steinberg L. Do effects of early child care extend to age 15 years? Results from the NICHD study of early child care and youth development. *Child Dev*. 2010;81(*2*):737-756.
9. Belsky J, Pluess M. Differential susceptibility to long-term effects of quality of child care on externalizing bahvior in adolescence? *Int J Behav Dev*. 2011; 36(*1*):2-10.
10. Campbell FC, Conti G, Heckman JJ, et al. Early childhood investments substantially boost adult health. *Science*. 2014;343:1478-1485.

4. What is the indicator?

Detailed definition: The number of licensed daycare center slots per 1,000 children aged 0 to 5 years

- Stratification: Type of daycare facility: day care center (children aged 2-5 years), infant center (children aged 0-2 years).

Data Description:

- Data source: California Department of Social Services (CDSS), Community Care Licensing Facility Search. U.S. Census Bureau, 2010 Census Summary File 2, Table PCT3.
- Years available: 2015
- Updated: Weekly (daycare facilities data); decennial (Census population data)
- Geographies available: Census tract, city/town, county subdivision, county, region (derived), state

The addresses of currently licensed daycare centers were downloaded from CDSS for the week of June 21, 2015. Licensed daycare centers include two facility types – infant centers (serve ages 0 to 2) and child care centers (serve ages 2 to 5). The downloaded dataset was manually checked for errors before being imported to ArcMap 10.3 for geocoding. The majority of addresses (98.9%) were successfully matched using the geocoding service locators supported by the California Department of Public Health (CDPH), and the addresses that were not matched were manually geocoded using Federal Financial Institutions Examination Council (FFIEC) Geocoding/Mapping System. The geocoded addresses were spatially joined to 2010 Census tracts and imported to SAS for analyses. The number of licensed daycare center slots was aggregated from Census tract to higher geography levels (city, county sub division, county, regions, state) and merged with the total children population aged 0 to 2 or 2 to 5, depending on the type of facility. The rate of daycare center slots per 1,000 children population was calculated by dividing the number of day care center slots with child population and multiplying by 1,000. Other calculations included standard errors (rate/$\sqrt{\#}$ center slots), Poisson distribution), 95% confidence interval, relative standard errors, decile, relative risk, and percent of non-White children. Regional estimates were based on county groupings associated with California metropolitan planning organizations as reported in the *2010 California Regional Progress Report.*

5. Limitations

The analysis of the impact of child care often relies on the measures of availability, quality, and cost; however, this indicator mainly highlights the availability of child care across geographies. The age range of children accepted by each type of facility overlaps thus it is not possible to provide mutually exclusive metrics for daycare and infant centers. Daycare centers status changes over time (i.e. opened, closed, re-opened) and the information may become outdated and inaccurate at any point in time; therefore, this analysis is only reflective of the initial time-point of inquiry. Moreover, the differences in the year available of daycare center data (2015) and child population data (2010) may introduce error if the population numbers have since changed.

6. Projects using this indicator

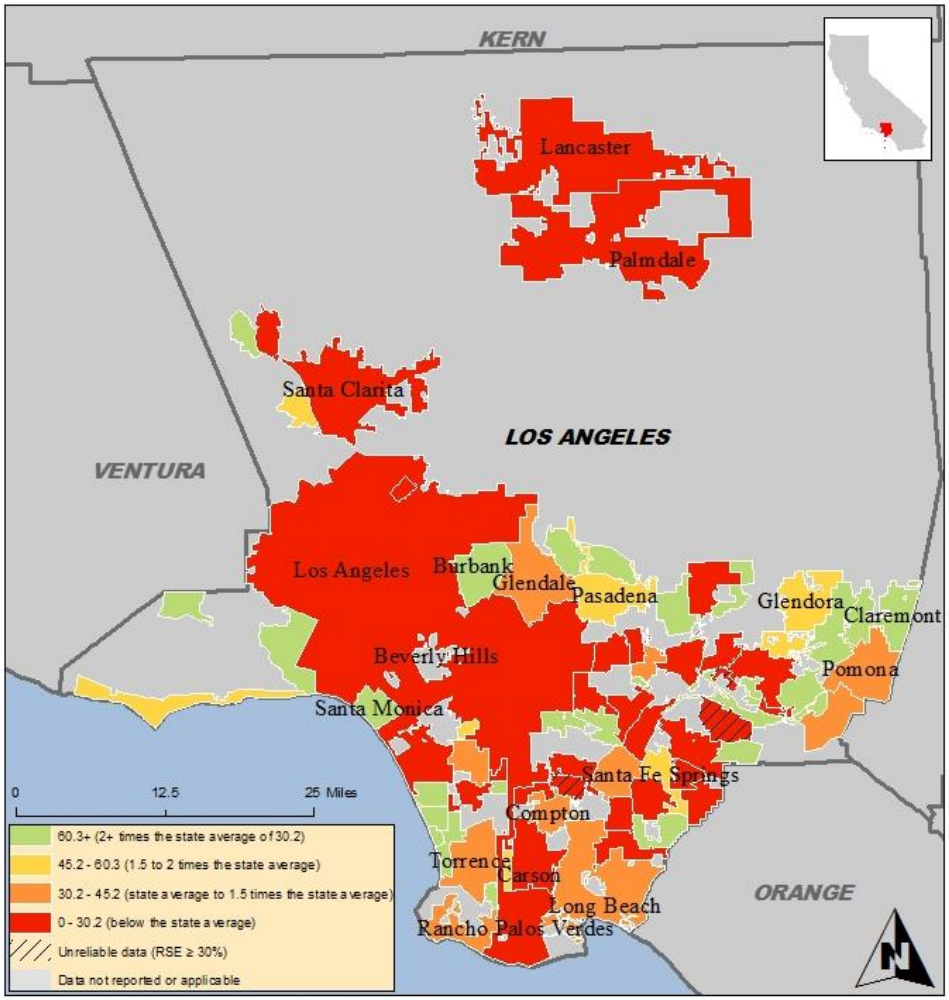
President Obama's Early Learning Initiative to benefit children from birth to age 5
First 5 California Strategic Plan
Kidsdata.org, a program of Lucile Packard Foundation for Children's Health

7. Examples of maps, figures, and tables

Map 1: Number of Licensed Day Care Center Slots per 1,000 Children Ages 2 to 5, by County Subdivision, California, 2015

Source: CDSS, Community Care Licensing Falicity Search, June 21, 2015; U.S. Census Bureau, 2010 Census Summary File 2. Analysis by CDPH.

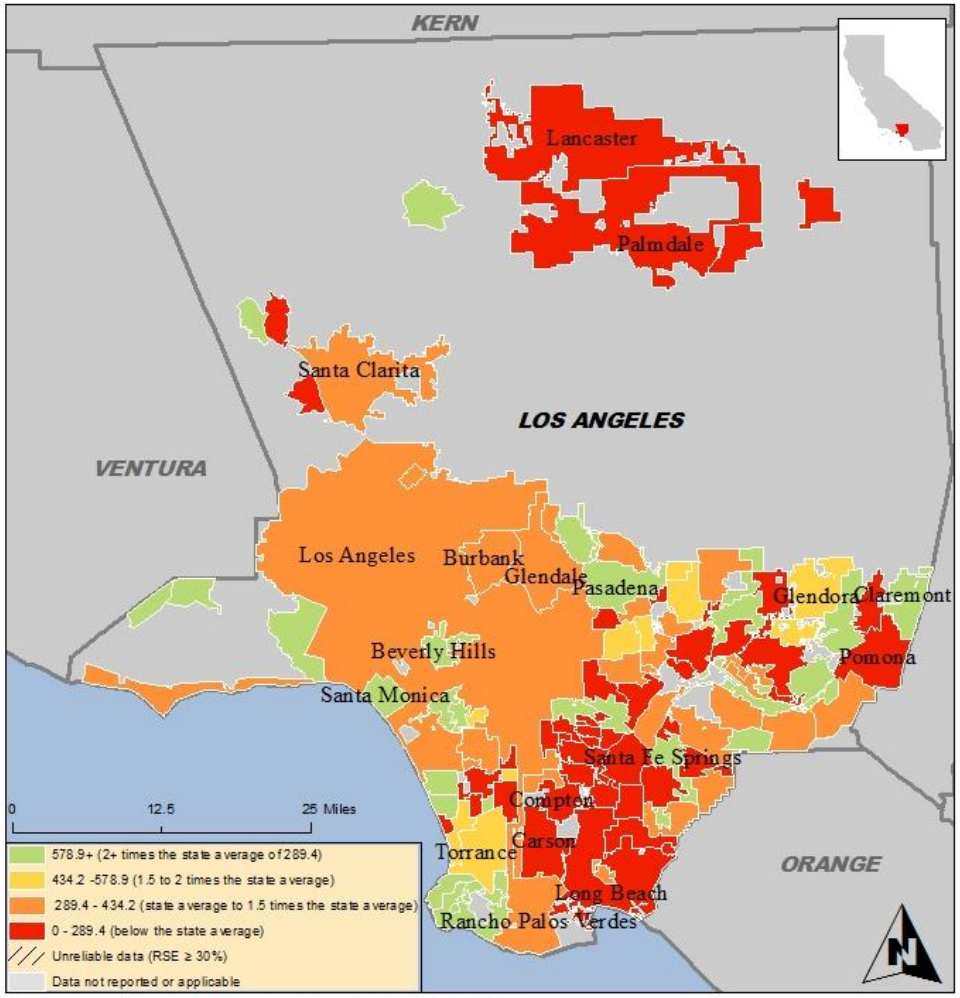
Map 2. Number of Licensed Infant Care Center Slots per 1,000 Children Ages 0 to 2, Cities and Towns, Los Angeles County, 2015



Source: CDSS, Community Care Licensing Facility Search, June 21, 2015; U.S. Census Bureau, 2010 Census Summary File 2.

Analysis by CDPH.

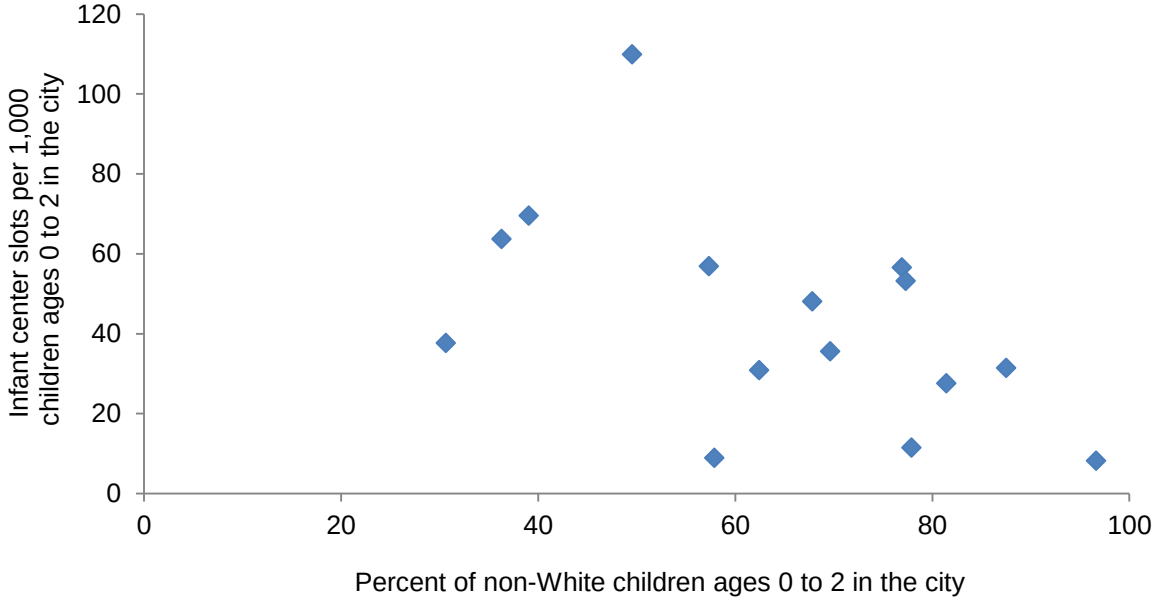
Map 3. Number of Licensed Day Care Center Slots per 1,000 Children Ages 2 to 5, Cities and Towns, Los Angeles County, 2015



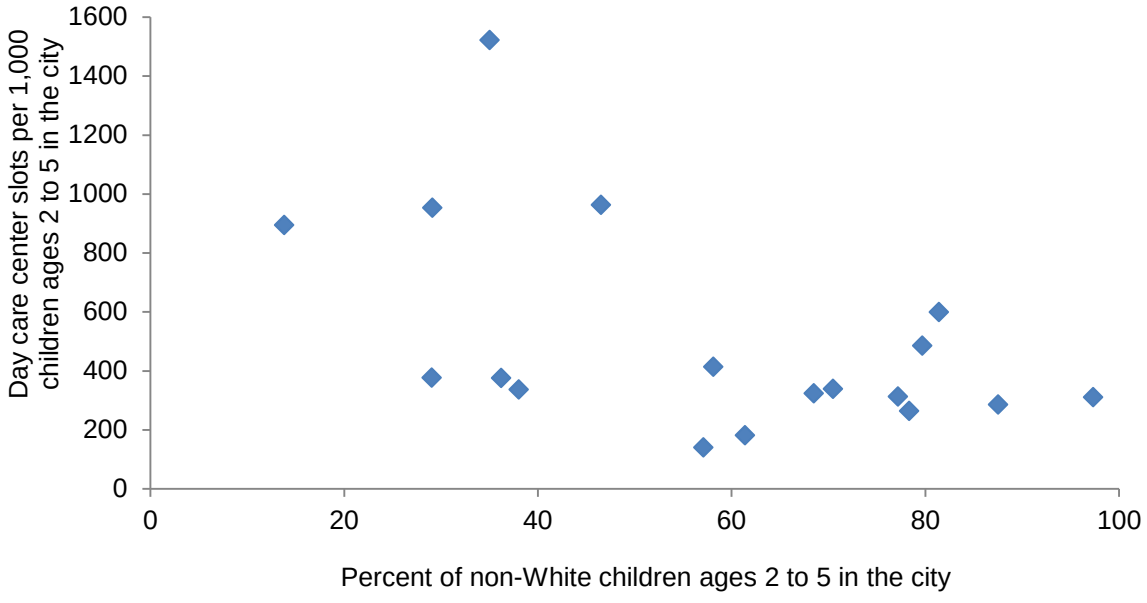
Source: CDSS, Community Care Licensing Facility Search, June 21, 2015; U.S. Census Bureau, 2010 Census Summary File 2.

Analysis by CDPH.

Rate of Licensed Infant Center Slots vs. Non-White Children Ages 0 to 2 in the Cities of San Diego County, 2015

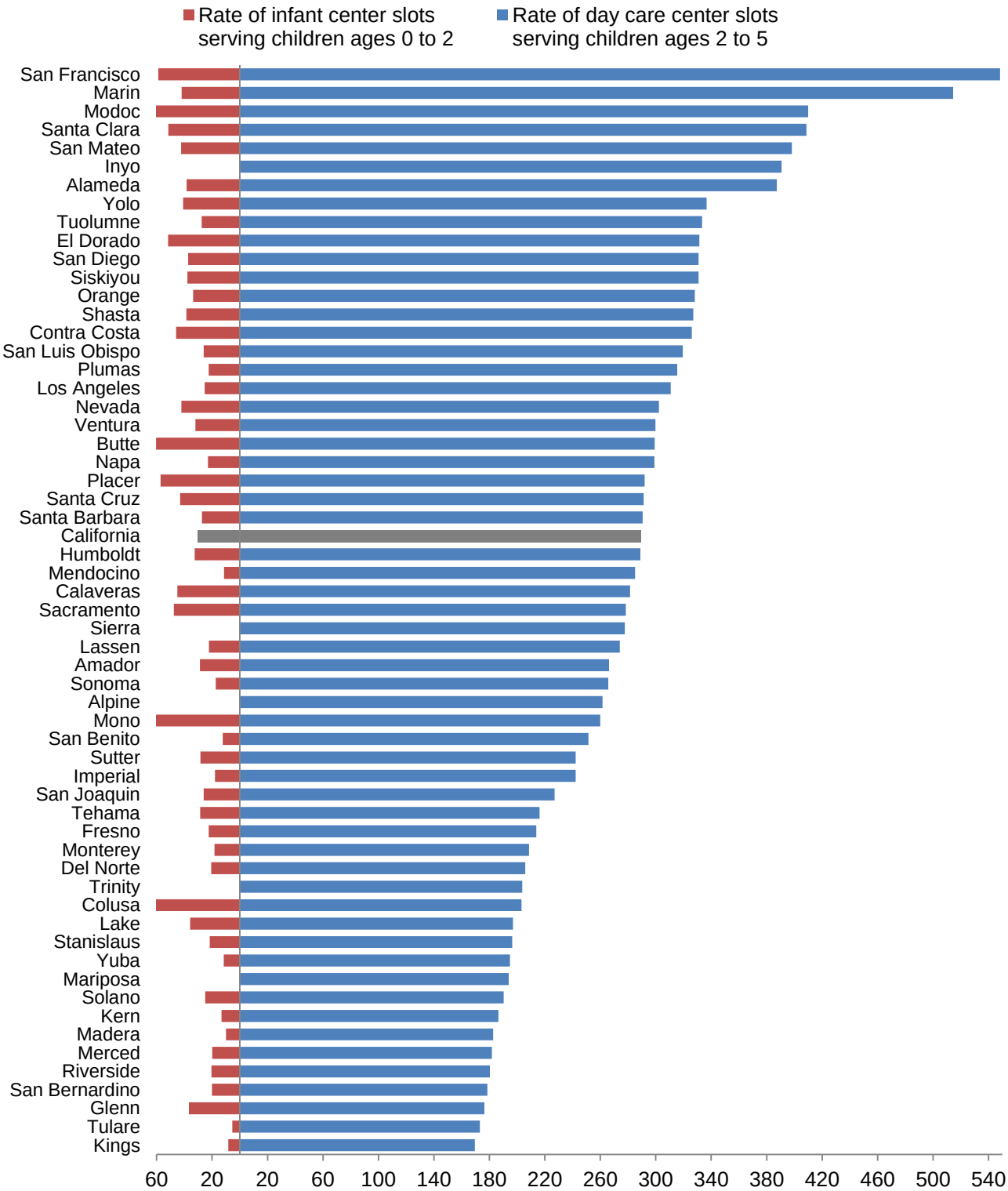


Rate of Licensed Day Care Center Slots vs. Non-White Children Ages 2 to 5 in the Cities of San Diego County, 2015



Source: CDSS, Community Care Licensing Facility Search, June 21, 2015; U.S. Census Bureau, 2010 Census Summary File 2.
Note: Cities included here are cities that have daycare facilities licensed by the DSS Community Care Licensing Division.

Rate of Infant/Day Care Center Slots, by County, California, 2015



Source: CDSS, Community Care Licensing Facility Search, June 21, 2015; U.S. Census Bureau, 2010 Census Summary File 2.

Table 1. Number (N) of Licensed Daycare Center Slots per 1,000 Children, by Region, California, 2015

Region	Rate of Infant Center Slots			Rate of Day Care Center Slots		
	N	Pop (ages 0-2)	Rate	N	Pop (ages 2-5)	Rate
Bay Area	11,465	266,632	43.0	137,485	362,283	379.5
Butte	443	7,322	60.5	2,984	9,973	299.2
Central/Southeast Sierra	165	5,021	32.9	2,094	7,075	296.0
Monterey Bay	770	30,784	25.0	9,858	41,730	236.2
North Coast	282	11,217	25.1	3,992	15,360	259.9
Northeast Sierra	222	5,975	37.2	2,543	8,166	311.4
Northern Sacramento Valley	232	4,992	46.5	1,376	6,774	203.1
Sacramento Area	4,277	92,513	46.2	36,493	128,775	283.4
San Diego	4,549	122,267	37.2	53,599	161,978	330.9
San Joaquin Valley	3,507	198,999	17.6	53,326	269,226	198.1
San Luis Obispo	205	7,845	26.1	3,512	10,991	319.5
Santa Barbara	446	16,335	27.3	6,425	22,120	290.5
Shasta	235	6,102	38.5	2,719	8,315	327.0
Southern California	18,679	731,810	25.5	275,405	991,930	277.6
California	45,477	1,507,814	30.2	591,811	2,044,696	289.4

Source: CDSS, Community Care Licensing Facility Search, June 21, 2015; U.S. Census Bureau, 2010 Census Summary File 2.